

CLAIMS

1. An apparatus for cutting and threading a sheet material, comprising:
 - a feed roll;
 - a scrap roll;
 - a first shoe, capable of contacting a sheet of material to the scrap roll;
 - a second shoe, capable of contacting a sheet of material to the feed roll; and
 - a knife;wherein the knife impacts and cuts the sheet when the sheet is in contact with the scrap roll and the first shoe, and when the sheet is in contact with the feed roll and the second shoe.
2. The apparatus of claim 1, wherein the feed roll directs the sheet towards a processing apparatus.
3. The apparatus of claim 2, wherein the feed roll is a vacuum roll.
4. The apparatus of claim 1, wherein the scrap roll diverts the sheet away from a processing apparatus.
5. The apparatus of claim 4, wherein the scrap roll is a vacuum roll.
6. The apparatus of claim 1, wherein the sheet is a fibrous web.
7. The apparatus of claim 1, wherein the feed roll, scrap roll, first shoe, second shoe and knife are automatically controlled such that the sheet transfers between being directed toward the processing apparatus and being diverted away from the processing apparatus in a continuous manner.
8. An apparatus for cutting and threading a sheet material, comprising:
 - a frame;

an anvil roll; and

a knife roll;

the anvil roll and knife roll movably mounted to the frame to provide an arcuate motion to the rolls at least between a first position and a second position;

wherein a sheet of material is directed to a processing apparatus by passing between the anvil roll and the knife roll in the first position;

the sheet of material is directed away from the processing apparatus by passing between the anvil roll and the knife roll in the second position; and

the sheet of material is cut by the convergence of the knife roll and anvil roll.

9. The apparatus of claim 8, wherein the convergence of the rolls in the second position separates the sheet into sections.

10. The apparatus of claim 8, wherein the convergence of the rolls in the second position further directs the sheet to a scrap location.

11. The apparatus of claim 8, further comprising an idler roll positioned to contact the sheet before it is directed to the processing apparatus.

12. The apparatus of claim 8, wherein the knife roll and anvil roll are automatically controlled such that the sheet transfers between being directed toward the processing apparatus and being diverted away from the processing apparatus in a continuous manner.

13. The apparatus of claim 8, wherein the sheet is a fibrous web

14. An apparatus for cutting and threading a sheet material, comprising:

a transfer blade having a retracted position and an extended position; and

a pair of nip rolls;

wherein a sheet of material passing between the retracted position and the extended position is diverted away from a processing apparatus by passing between the nip rolls; and

the movement of the transfer blade from the retracted position to the extended position directs the sheet toward the processing apparatus.

15. The apparatus of claim 14, wherein the sheet is broken by the movement of the transfer blade from the retracted position to the extended position.

16. The apparatus of claim 14, wherein the sheet is in contact with the nip rolls.

17. The apparatus of claim 16, wherein the sheet moves at a first speed and is broken by a stress applied to the sheet by the rotation of the nip rolls at a second speed greater than the first speed.

18. The apparatus of claim 16, wherein the sheet moves at a first speed and is broken by a stress applied to the sheet by the combination of the movement of the transfer blade from the retracted position to the extended position and the rotation of the nip rolls at a second speed greater than the first speed.

19. The apparatus of claim 14, wherein the transfer blade comprises air jets.

20. The apparatus of claim 14, further comprising an idler nip roll, wherein the idler nip roll provides tension to the sheet when the sheet is in contact with the nip rolls or the transfer blade.

21. The apparatus of claim 14, wherein the sheet is a fibrous web.

22. The apparatus of claim 14, wherein the transfer blade and nip rolls are automatically controlled such that the sheet transfers between being directed toward the processing apparatus and being diverted away from the processing apparatus in a continuous manner

5 23. An apparatus for cutting and threading a sheet material, comprising:
means for directing a sheet toward a processing apparatus;
means for cutting the sheet;
means for directing the sheet away from the processing
10 apparatus; and
means for simultaneously cutting the sheet and directing the sheet toward the processing apparatus.

15 24. The apparatus of claim 23, further comprising means for cutting the sheet into sections when the sheet is directed away from the processing apparatus.

25. The apparatus of claim 23, wherein the sheet is a fibrous web.

20 26. A method for handling a sheet of material, comprising:
providing a formed sheet of material;
breaking the sheet of material to form an initial edge to the formed sheet and a scrap portion;
directing the initial edge to a processing machine; and
diverting the scrap portion away from the processing machine;
wherein the breaking, directing, and diverting are automatically controlled such that the providing is a continuous process.

25 27. The method of claim 26, wherein the breaking, directing, and diverting are simultaneous.

28. The method of claim 26, wherein the breaking comprises impacting the sheet with a knife.

29. The method of claim 26, wherein the breaking comprises contacting the sheet between an anvil roll and a knife roll.

30. The method of claim 26, wherein the sheet moves at a first speed, and the breaking comprises applying a stress applied to the sheet by contacting the sheet between two nip rolls rotating at a second speed greater than the first speed.

31. The method of claim 26, wherein the directing comprises contacting the sheet with a feed roll.

32. The method of claim 26, wherein the sheet moves along a path away from the processing apparatus, and the directing comprises moving a transfer blade from a retracted position to an extended position through the path of the sheet.

33. The method of claim 26, wherein the diverting comprises contacting the sheet with a scrap roll.

34. The method of claim 26, wherein the diverting comprises passing the sheet between a pair of nip rolls.

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